REMARKS

By this Amendment, Claims 1, 9, 10 and 13 have been amended; Claims 15-18 were previously cancelled, without prejudice, in response to a restriction requirement. Claims 1-14 and 19-20 are currently pending.

The Examiner has maintained the rejection of Claims 1-7 and 9-14 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,173,993 (Shumard, et al.):

> In regards to claim 1, Shumard, et al. disclose a joint restraint assembly (10) comprising:
> a body (14) encircling the pipe, with the body having a plurality of cavities (34) adjacent the pipe and at least one set of a corresponding plurality of threaded bores (20) disposed through the body, each threaded bore of the at least one set of a corresponding plurality of threaded bores being in communication with a respective cavity;
> a segment (40) disposed within each of the cavities in the body, the segment comprising a first portion (46) that contacts a surface (28) of the cavity and a second portion (52) that penetrates the outer surface of the pipe, the segment pivoting about the first portion to drive the second portion deeper into the outer surface of the pipe as provide the mechanical or internal pressure loading applied to the pipe increases.

Furthermore, the Examiner has stated that:

> In response to Applicant's argument that the references fail to show certain features of Applicant's invention, it is noted that the features upon which Applicant relies (i.e., the depth of penetration of the segment edge into the pipe surface, and ability to resist pipe pullout load, is directly proportional to the mechanical and/or internal pressure loading applied to the pipe being self-actuating) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

To that end, Applicants have amended Claim 1 to more clearly distinguish over Shumard. In particular, Claim 1 now specifies that the first portion of the segment that contacts the cavity

surface maintains that contact throughout increasing mechanical or internal pressure loading applied to the pipe. This feature permits the second portion to pivot about the first portion as the mechanical loading increases, thereby providing resistance to pipe pull-out in proportion to this increased mechanical or internal pressure loading. In contrast, the front surface 46 (nor any other surface) of the wedge 40 of Shumard **does not maintain contact** with the wedge pocket 34 **throughout increasing mechanical or internal pressure loading of the pipe**. As the mechanical load increases, the wedge 40 ***pivots about the tooth 54 (if it contacts the pipe surface first-see Shumard col. 6, lines 43-49) or about tooth 52 (if it contacts the pipe surface first-see Shumard col. 7, lines 29-30) due to the threaded bolt 32 being in contact with the wedge groove 48***. As the wedge 40 pivots about tooth 52 or 54, the front surface 46, nor any other wedge surface **maintains contact** with any wedge pocket 34 surface, including surface 28. Thus, for all of these reasons, as well as for the reasons set forth in the previous response dated February 10, 2005, Applicants respectfully submit that Claim 1, as amended, is patentable over the art of record.

With regard to Claim 2, it is dependent upon Claim 1 and is patentable for the same reasons. Furthermore, as stated previously, the threaded bolt 32 of Shumard remains in contact with the wedge groove 48 as the wedge 40 pivots about the tooth 52 or 54, ***thereby maintaining contact with the wedge 40, and not losing contact***, as specified in Claim 2. Thus, for all of these reasons, as well as for the reasons set forth in the previous response dated February 10, 2005, Applicants respectfully submit that Claim 2 is patentable over the art of record.

With regard to Claim 3, it is dependent upon Claim 1 and is patentable for the same reasons. Furthermore, once the teeth 52/54 of Shumard are embedded into the pipe surface, the wedge 40 is loaded almost ***in pure shear, not compression***, as specified in Claim 3. Thus, for all of these reasons, as well as for the reasons set forth in the previous response dated February 10, 2005, Applicants respectfully submit that Claim 3 is patentable over the art of record.

Claim 4 is dependent upon Claim 3 and is patentable for the same reasons. Thus, for this reason, as well as for the reasons set forth in the previous response dated February 10, 2005, Applicants respectfully submit that Claim 4 is patentable over the art of record.

Claim 5 is dependent upon Claim 4 and is patentable for the same reasons. Furthermore, the relief angle range of 25 to 35 degrees provides the segment edge 16 with a sharp enough point to penetrate the pipe surface but at the same time provides the segment edge 16 with sufficient strength to withstand the compression that the segment 4 is experiencing, specified in Claim 4. In contrast, because the wedge 40 of Shumard is in pure shear, there is no compression factor that the Shumard teeth 52/54 need to withstand and thus the relief angle is not limited to the specified range. Shumard does not teach or even suggest such a relief angle range and Applicants request how the Examiner concludes that such a relief angle range is implied in Shumard. Thus, for all of these reasons, as well as for the reasons set forth in the previous response dated February 10, 2005, Applicants respectfully submit that Claim 5 is patentable over the art of record.

Claim 6 is dependent upon Claim 3 and is patentable for the same reasons. Furthermore, for this reason, as well as the reasons set forth in the previous response dated February 10, 2005, Applicants respectfully submit that Claim 6 is patentable over the art of record.

Claim 7 is dependent upon Claim 1 and is patentable for the same reasons. Furthermore, for this reason, as well as the reasons set forth in the previous response dated February 10, 2005, Applicants respectfully submit that Claim 7 is patentable over the art of record.

With regard to Claim 9, the Examiner states that Shumard discloses:

> a joint restraint assembly (10) comprising:
> a body (14) encircling the pipe, with the body having a plurality of cavities (34) adjacent the pipe and at least one set of a corresponding plurality of threaded bores (20) disposed through the body, each threaded bore of the at least one set of a corresponding plurality of threaded bores being in communication with a respective cavity;
> a segment (40) disposed within each of the cavities in the body, the segment comprising a first portion (46) that contacts a surface (28) of the cavity and a cam surface (52) that engages and rotates against the outer surface of the pipe, the segment pivoting about the first portion to drive the cam surface deeper into the outer surface of the pipe as provide the mechanical or internal pressure loading applied to the pipe increases.

To that end, Applicants have also amended Claim 9 to more clearly distinguish over Shumard. In particular, Claim 9 now specifies that the first portion of the segment that contacts the cavity surface maintains that contact throughout increasing mechanical or internal pressure loading applied to the pipe. This feature permits the cam surface to pivot about the first portion while rotating against, but without substantially penetrating[1], the outer surface of the pipe as the

[1]The phrase "substantially penetrate" is meant to distinguish between the cam surface of the present invention that rolls against the outer pipe surface with some impression due to the compression force whereas, in contrast, the teeth 52/54 of Shumard act as knife edges to cut into and *substantially penetrate* the pipe surface.

mechanical loading increases, thereby providing resistance to pipe pull-out in proportion to this increased mechanical or internal pressure loading. In addition, the claim language cited above by the Examiner regarding "to drive the cam surface deeper into the outer surface of the pipe" is not present in amended Claim 9; rather, amended Claim 9 specifies that the cam surface **rotates against, but does not substantially penetrate, the outer surface of the pipe** throughout increasing mechanical or internal loading applied to the pipe. In contrast, as the pipe loading increases in Shumard, the teeth 52/54 are embedded/penetrate into the pipe surface, as the mechanical/internal loading applied to the pipe increases. Thus, for all of these reasons, as well as for the reasons set forth in the previous response dated February 10, 2005, Applicants respectfully submit that Claim 9, as amended, is patentable over the art of record.

Claims 10 and 13 ultimately depend upon Claim 9 and are patentable for the same reasons. Claim 13 has been amended to be consistent with Claim 10. Thus, for this reason, as well as for the reasons set forth in the previous response dated February 10, 2005, Applicants respectfully submit that Claims 10 and 13 are patentable for the same reasons.

Claim 11 is dependent upon Claim 9 and is patentable for the same reasons. Furthermore, Claim 11 corresponds to Claim 3 and is patentable for the same reasons. Furthermore, for these reasons, as well as the reasons set forth in the previous response dated February 10, 2005, Applicants respectfully submit that Claim 11 is patentable over the art of record.

Claim 12 is dependent upon Claim 9 and is patentable for the same reasons. Furthermore, since Shumard does not teach or suggest a cam surface but rather only teeth 52/54 which act like a

knife edge to penetrate the pipe surface, there would be no incentive to include a surface texture on the teeth 52/54; if anything, it is desirable to keep the teeth 52/54 very smooth, rather than textured, to easily cut through the pipe surface. Thus, for all of these reasons, as well as for the reasons set forth in the previous response dated February 10, 2005, Applicants respectfully submit that Claim 12 is patentable over the art of record.

Claim 14 is dependent upon Claim 12 is patentable for the same reasons. Furthermore, Claim 14 corresponds to Claim 3 and is patentable for the same reasons. Furthermore, for these reasons, as well as the reasons set forth in the previous response dated February 10, 2005, Applicants respectfully submit that Claim 14 is patentable over the art of record.

Claims 19 and 20 depend from Claims 4 and 9, respectively, and are patentable for the same reasons. Thus, for all of these reasons, as well as for the reasons set forth in the previous response dated February 10, 2005, Applicants respectfully submit that Claims 19 and 20 are patentable over the art of record.

Claim 8 is dependent upon Claim 1 and is patentable for the same reasons. Thus, for this reason, as well as for the reasons set forth in the previous response dated February 10, 2005, Applicants respectfully submit that Claim 8 is patentable over the art of record.

For at least the reasons set forth above, it is respectfully submitted that the above-identified application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are respectfully requested.

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Should the Examiner believe that anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

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Please charge or credit our Account No. 03-0075 as necessary to effect entry and/or ensure consideration of this submission.